

AMENDMENTS TO THE DRAWINGS

Please replace the entire set (five sheets) of originally filed Figures 1-6 with the five replacement sheets submitted herewith.

REMARKS

Reconsideration of the application is respectfully requested. Claims 1, 2, 4, and 5 have been amended. Claim 3 has been canceled, without prejudice or disclaimer. Claims 6-19 have been withdrawn from consideration. Thus, only claims 1, 2, 4, and 5 are currently at issue.

Claims 1, 2, 4, and 5 have been amended for clarification. Support for these amendments is found in the specification at, for example, pages 5-7, page 9 (last paragraph), in Figures 1-3, and in original claims 1, 2, 4, and 5. Claim 1 has also been amended to specify that the foaming plane is formed from a contiguous synthetic resin film. Support for this amendment is found in the specification at, for example, page 14, and in Figures 1 and 2. Claim 5 has also been amended to specify the constraint means. Support for this amendment is found in the specification at, for example, page 11, last line to page 12, line 3.

No new matter has been added.

Drawings

The drawings have been objected to as having non-English titles. The Examiner has requested that new corrected drawings in compliance with 37 CFR 1.121(d) be submitted. Accordingly, replacement sheets for the entire set (five sheets) of Figures 1-6 are submitted herewith, and all non-English titles have been removed.

Utility Rejection

Claim 3 has been rejected under 35 U.S.C. §101 as lacking utility. This rejection is moot because claim 3 has been canceled.

Indefiniteness Rejections

Claims 1-5 have been rejected under 35 U.S.C. §112, second paragraph, as indefinite for containing grammatical and idiomatic errors, and for including the term “foaming plane,” which the Examiner contends is not defined in the specification.

The rejection of claim 3 is moot because this claim has been canceled. Claims 1, 2, 4, and 5 have been amended for clarification, as suggested by the Examiner. However, the term “foaming plane” remains in the claims because, contrary to the Examiner’s assertion, this term is used throughout the specification, is shown in Figures 1 and 2, and is defined in the specification at, for example, page 9, last paragraph, which states (emphasis added):

In this invention, one unit of foam of the synthetic resin film is a foaming cell 20, a state where the foaming cells 20 are continuously gathered is a foaming cell group 21 and a state where the foaming cell group 21 is formed in the surface state is a **foaming plane 22**.

In view of the foregoing, one of ordinary skill would readily understand what is meant by the term “foaming plane,” and would further understand the full scope of claims 1, 2, 4, and 5. Consequently, claims 1, 2, 4, and 5 are not indefinite, and Applicant respectfully requests that this rejection be withdrawn.

Anticipation Rejections

Claims 1, 2, and 4 have been rejected under 35 U.S.C. §102 as anticipated by Japanese Patent Application No. JP 2000-177039 (“JP ‘039”). The Examiner cites JP ‘039 as disclosing a polyethylene film laminated to a board surface over a spot-applied joining inhibitor, using heat to form the foam and vacuum suction to obtain the foamed laminated sheet.

Claims 1, 2, and 4 are not anticipated by JP '039 because, *inter alia*, this reference fails to disclose a foaming plane that is formed from a contiguous synthetic resin film, as called for in these claims. According to the presently claimed invention, the synthetic resin film used to form the foaming plane is contiguously applied to the base paper. Hence, the foaming plane is likewise fully contiguous with the base paper. In contrast, JP '039 discloses the application of a joining inhibitor that is applied to the base sheet in a spotted fashion before application of the laminated film. Consequently, the foam laminated sheet formed in JP '039 is interrupted at each point on the base sheet where the joining inhibitor is present. *See* JP '039, ¶14 ("a lamination is performed in the condition that the laminate film 13 is not joined to the paper board 10 in the part which applied the silicone oil 11."). Accordingly, the foaming disclosed in JP '039 is performed only at a portion of the laminated film - i.e., where the joining inhibitor is applied in a spotted fashion to the base sheet. Thus, the JP '039 foamed laminate is not contiguous with the base sheet.

In summary, JP '039 fails to disclose the claimed foaming plane that is formed from a contiguous synthetic resin film on a base paper, and that is thus contiguous with the base paper as well.

Additionally, the foaming step disclosed in JP '039 occurs only after vacuum suction, not during heating. *See* JP '039, ¶16. More specifically, JP '039 discloses that its laminate film on the joining inhibitor sports is separated from the base sheet and formed into a thermally plastic state by heating, which causes the base sheet to emit steam. The laminate film is then expanded and made to foam by the subsequent vacuum suction step. Accordingly, the foam laminated sheet disclosed in JP '039 is not foamed with high magnification as in the present invention because the JP '039 laminate film is foamed only through vacuum suction, whereas the presently claimed thermal insulation foamed sheet is in fact foamed through heating, and the foaming height of at least part of the

foaming plane is increased by vacuum suction as well. Furthermore, the presently claimed foaming plane is vacuum-suctioned in a die having a gap that is generated between the foaming plane and a suctioning surface of the die. By this method, the claimed foaming cells are foamed with high magnification using steam emitted from the base sheet during heating and without the need for a joining inhibitor.

In view of the foregoing, claims 1, 2, and 4 are not anticipated by JP '039, and Applicant respectfully requests that this rejection be withdrawn.

Obviousness Rejections

Claims 3 and 5 have been rejected under 35 U.S.C. §103 as obvious over JP '039.

The rejection of claim 3 is moot because this claim has been canceled. Additionally, claim 5 is not obvious over JP '039 because, to establish obviousness, “all the claim limitations must be taught or suggested by the prior art.” MPEP §2143.03. As discussed above, JP '039 fails to disclose the claimed foaming plane that is formed from a contiguous synthetic resin film on a base paper, and that is thus contiguous with the base paper as well. Moreover, a critical feature of the foam laminated sheet taught by JP '039 is the presence of the joining inhibitor, which is required to allow the laminate to foam during vacuum suction. *See* JP '039, ¶8. There is no disclosure in JP '039 that would have led one of ordinary skill in the art to eliminate this critical step, particularly because doing so would have destroyed the operability of the JP '039 foam laminated sheet by restricting the laminate from foaming. *See* MPEP §2143.01(V) (“If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification.”)

In view of the foregoing, claim 5 is not obvious over JP '039, and Applicant respectfully requests that this rejection be withdrawn.

Conclusion

In view of the above amendments and remarks, it is respectfully requested that the application be reconsidered and that all pending claims be allowed and the case passed to issue.

If there are any other issues remaining, which the Examiner believes could be resolved through either a Supplemental Response or an Examiner's Amendment, the Examiner is respectfully requested to contact the undersigned at the telephone number indicated below.

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Respectfully submitted,

By 

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